



Pressure measurement



Type:

Precont® PS4SK

Pressure switch for general applications
Monitoring of absolute or relative pressure
in gases, vapors, liquids and dust

In brief



Application

- General applications in
 - Machinery and plant engineering
 - Air-conditioning and refrigeration plant engineering
 - Hydraulic and pneumatic systems
 - Process industry
 - Environmental technology

Your benefits

- **Wide range of applications**
- Finely graded measuring ranges from 250 mbar up to 600 bar
- Wide process temperature range -40°C to +135°C
- Wide variety of process connections
- High protection class IP65 / IP67
- Wide environmental temperature range -40°C to +85°C
- Ceramic front-flush or internal diaphragm
- High accuracy – characteristic deviation $\leq 0,5\%$ of measuring range
- Integrated evaluation electronic: Digital display, function LED's, keyboard / 2x PNP switch output / 1x current output 4...20mA / Connector plug M12
- **High operating comfort:** enclosure and display rotatable for **optimal operability** in each installation position
- Robust high brightness LED display for **best readability**
- 3-key operation without additional assistance with tactile feedback

Description

Due to the device construction with measuring ranges from -1 bar to 600 bar, gauge, measuring ranges from 1 bar to 40 bar, absolute, measuring spans from 250 mbar to 600 bar, process temperatures from -40°C to +135°C and process materials Al2O3-ceramic / CrNi-steel as well as the availability of industrial standard process connections like thread connection ISO 228-1, EN 837 manometer, thread connection ISO 228-1 (inner thread), thread connection ISO 228-1 (EN 1179-2 E), thread connection ISO 228-1 (inner bore) and thread connection ISO 228-1 (front-flush) the device is especially suitable for the use for machinery and plant engineering, air-conditioning and refrigeration plant engineering, hydraulic and pneumatic systems, process industry, environmental technology and facility and building automation.

The device is suitable for demanding measuring requirements.

Due to its high accuracy and the high flexibility of configuration, the device can be suited a wide variety of applications.

The robust design and the high-quality workmanship turns the device into a very high quality product, which even the most adverse environmental conditions cannot affect, whether the lowest temperatures when used outdoors, extreme shock and vibration or aggressive media.

A captive laser marking of the type label ensures the identifiability throughout the entire lifetime of the device.

Obviously is the optional marking of a measurement point designation resp. TAG, a customer label or of a neutral type label, of course also per laser marking.



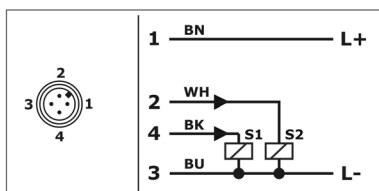
A LABS-free resp. silicone-free version, a factory calibration with calibration certificate and a customer specific configuration resp. preset is also optionally available like a material test certificate EN10204 3.1 or factory certifications for drink water resp. food suitability.



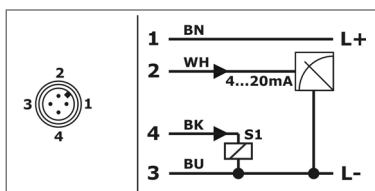
Technical Data

Technical Data		
Supply voltage:	10,5...35VDC, reverse polarity protected	
Supply current:	≤ 60mA	Analogue output max. 22,5mA Switch output with no load
Switch output S1 / S2		
Function:	PNP switch to +L	
Output current:	0... ≤ 200mA	current limited, short circuit protected
Analogue output 4...20mA		
Operating range:	3,9...21mA, min. 3,8mA, max. 22mA	
Permitted load:	≤ (US - 10,5V) / 22mA	
Start-up time:	≤ 1 s	
Measurement accuracy		
Characteristic deviation:	≤ ± 0,5% FS	
Long term drift:	≤ ± 0,2% FS / year	not cumulative
Temperature deviation	Measuring range 0...250 mbar to 0...2,5 bar: ≤ ±0,05% FS / K Measuring range 0...4 bar to 0...600 bar: ≤ ±0,04% FS /K	
Materials		
Diaphragm: (process wetted)	Ceramic aluminum oxide Al ₂ O ₃ – 96%	
Process connection: (process wetted)	Steel 1.4404/316L / Steel 1.4571/316Ti	
Terminal enclosure:	CrNi-steel	
Gaskets: (process wetted)	FPM – fluorelastomere (Viton®) EPDM – ethylene-propylene-dienmonomere, FDA-listed	
Environmental conditions		
Environmental temperature:	– 40°C...+85°C	
Process temperature:	– 40...+100°C (extended -40...+135°C)	
Process pressure:	0 bar ...600 bar (depending on process connection)	
Protection:	IP65/IP67	EN/IEC 60529

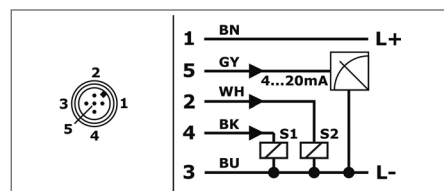
Electrical connection



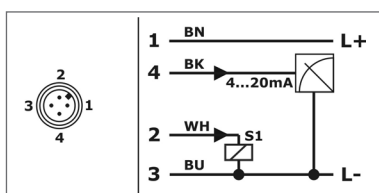
Signal 2x PNP
Conductor color standard connection cable M12
– A-coded: BN = brown, WH = white, BU = blue, BK = black



Signal 4...20 mA / 1x PNP
Conductor color standard connection cable M12
– A-coded: BN = brown, WH = white, BU = blue, BK = black

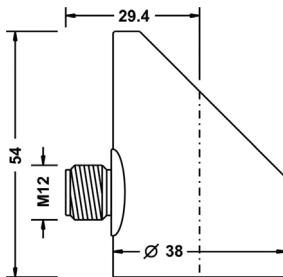


Signal 4...20 mA / 2x PNP
Conductor color standard connection cable M12 – A-coded:
BN = braun, WH = white, BU = blue, BK = black, GY = grau

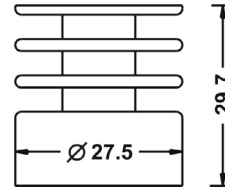


Signal 4...20 mA / 1x PNP / Desina
Conductor color standard connection cable M12
– A-coded: BN = brown, WH = white, BU = blue, BK = black

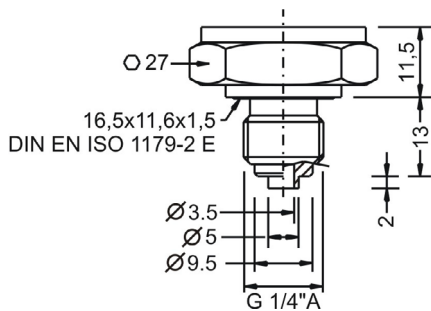
Anschlussgehäuse



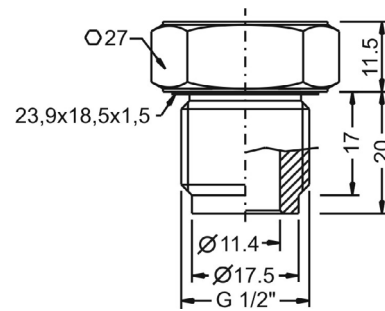
Temperaturentkoppler



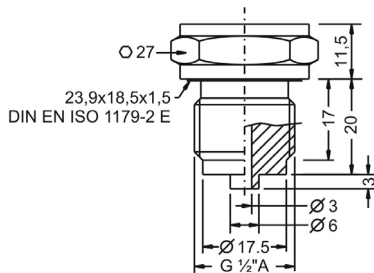
Type 6 – Thread ISO 228-1 – G $\frac{1}{4}$ "A, EN 837



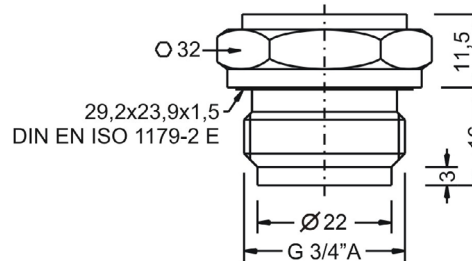
Type 2 – Thread ISO 228-1 – G $\frac{1}{2}$ "B, inner bore



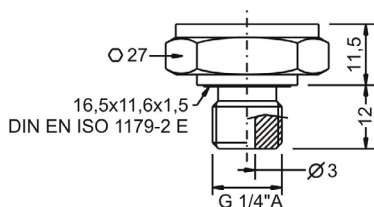
Type 1 – Thread ISO 228-1 – G $\frac{1}{2}$ "A, EN 837



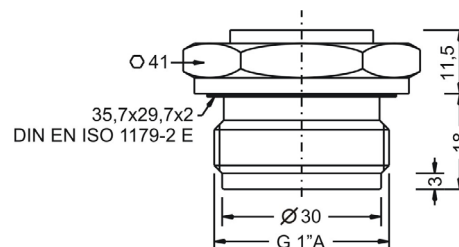
Type 8 – Thread ISO 228-1 – G $\frac{3}{4}$ "A, front-flush



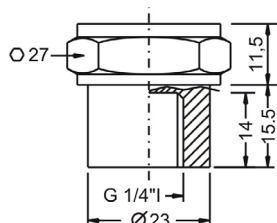
Type 3 – Thread ISO 228-1 – G $\frac{1}{4}$ "A, DIN EN ISO 1179-2 E2 E



Type 5 – Thread ISO 228-1 – G1"A, front-flush



Type 4 – Thread ISO 228-1 – G $\frac{1}{4}$ " I, inner thread



Order code

PS4S

K

S

V

C

S

4

S

Type
Standard

Measuring system – material diaphragm (process wetted) / sensor type
Ceramic Al2O3 96% / strain gauge

Approval
Standard

Process connection
6 Thread ISO 228-1 – G¼"A, EN 837 manometer
1 Thread ISO 228-1 – G½"A, EN 837 manometer
3 Thread ISO 228-1 – G¼"A, DIN EN ISO 1179-2 E
4 Thread ISO 228-1 – G¼"I, inner thread
2 Thread ISO 228-1 – G½"B, inner bore
8 Thread ISO 228-1 – G¼"A, front-flush, ≤ 10 bar
5 Thread ISO 228-1 – G1"A, front-flush, ≤ 1 bar
Y others

Material process gaskets (process wetted)
1 FPM – fluorelastomere (e.g. Viton®)
3 EPDM – ethylene-propylene-dienmonomere, FDA-listed
Y andere

Material process connection (process wetted)
V CrNi-steel

Material terminal enclosure
C CrNi-steel

Measuring range
02 0...250 mbar
03 0...400 mbar
04 0...600 mbar
05 0...1 bar
06 0...1,6 bar
07 0...2,5 bar
08 0...4 bar
09 0...6 bar
10 0...10 bar
11 0...16 bar
12 0...25 bar
13 0...40 bar
14 0...60 bar
19 0...100 bar
20 0...160 bar
21 0...250 bar
22 0...320 bar
23 0...400 bar
24 0...600 bar
16 -1...0 bar
17 -1...+1 bar
YY Special measuring range

Electronic – output
A 4-wire, 2x switch PNP
B 4-wire, 1x switch PNP, 1x signal 4...20mA
C 5-wire, 2x switch PNP, 1x signal 4...20mA
D 4-wire, 1x switch PNP, 1x signal 4...20mA, Desina

Electronic – function
S Standard

Process temperature
0 Standard -40°C...+100°C
1 Extended -40°C...+135°C, temperature decoupler

Pressure type
R Gauge pressure
A Absolute pressure, ≥ 1bar ... ≤ 40bar

Measuring system – accuracy
4 0,5%

Electrical connection
S Plug M12x1

Order code

Precont®

PS4S

K

S

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C

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Equipment

Ordering information	Model
BKZ0412-VA	matching cable socket, VA-nut
BKZ0512-VA	matching cable socket, VA-nut (with electronics „C“ 4-20mA, 2xPNP)
LKZ0405PUR-AS	connection cable 5 m, 4-pole, shielded
LKZ0410PUR-AS	connection cable 10 m, 4-pole, shielded
LKZ0505PUR-AS	connection cable 5 m, 5-pole, shielded
LKZ0510PUR-AS	connection cable 10 m, 5-pole, shielded